

# Best Management Practices

This document is a compilation of best management practices (BMPs) that the E-scrap subgroups have suggested. There are several things to consider when discussing BMPs. Listed below are the issues that the subgroups have brought up so far:

- All of the small groups (collection, processing, and disposition) commented on regulatory liability, real or perceived, being tied to concerns with the hazardous waste regulations making a distinction between household and business generated waste. Retailers hesitate or refuse to get involved. They could have a store employee make determinations on the materials that come in, but that is too much responsibility for hourly wage employee. Suggestions were made to exempt collectors from hazardous waste regulations and demanufacturers from TSD requirements.
- Existing or potential collectors need “best management practices” guidance specific to Mo. The collection centers want regulations that are specific to their process, rather than trying to deduce which federal or state regulations apply to their situation. At some collections, materials are tested to see if they are working or not. There is a need for technical proficiency by some staff at these collection points.
- Dismantling E-scrap is labor intensive and it is difficult to track the recycling streams after processing. There are issues with data security and making sure that the e-waste is actually being processed (sham recycling). They are also concerned with the potential for mandatory “take back.” The group suggested that if an electronics manufacturing company was required to “take back” their products to recycle, it would hurt Missouri processing businesses. Large companies may be required to send their e-waste to the manufacturing company in another state or another country. If the e-waste is sent to another country, how can we be sure that they are being demanufactured in an environmentally sound way?
- Disposition facilities handle many different types of electronics and materials in each type of electronics. It is hard to recycle some plastics. There are seven types of thermal plastics. There are also limited markets for the recycled materials.

\*\*Rural areas have fewer options and probably greater costs due to distance from processors or end markets. A suggestion was made to approach rural electric cooperatives as potential collectors.

## I. COLLECTION

1. Certification (Group felt some kind of registration/certification needed)
  - Registration or notification would work also, not as many requirements as certification or licensing
  - Marketing tool for collectors if voluntary
  - Need criteria to evaluate a collector (see list used by the Parkway School).
  - Consistent and practical inspections by state or federal agencies.

- A certification/training process for collection staff in proper management methods.
2. Releases
    - Packaging standards when transporting.
    - Adequate storage and sorting space.
    - Clean up standards including information on best standards, where to get assistance, educational effort and addressing liability.
    - Protection – barriers/fencing to protect the environment
    - Protection for workers
  3. Speculative accumulation
    - Collectors bonded to provide for funds to take care of accumulations
    - Currently is federal law that you cannot speculatively accumulate
    - Provide donor a Certificate of Destruction that the PC was appropriately handled
    - Have mandatory registration of collectors so they can be checked
    - Instead of registration, require an EPA or DNR generator ID #
  4. Proper Closure
    - Require collectors to be bonded (may harm smaller collectors as too much of an expense)
    - Use a certification process (more specific with more requirements than just registering)
    - Provide guidance on proper closure
    - Have an ARF (Advance Recycling Fee) and use some of those funds to insure proper closure
  5. Other
    - Collectors not penalized for poor/illegal handling; exempt collectors (Ohio or Iowa)
    - Liability – may have 3<sup>rd</sup> party Registered recycler (Control)\*\*

## **II. TRANSPORTATION**

- It was suggested not to over-regulate transportation, if there is not a problem or environmental impact. Do not see that the different components represent unique handling/shipping needs.
- Important that the record keeping is simple, such as an informal manifest system not regulated by the state. May have to rely on each organizations own due diligence. Should use what means of regulatory or due diligence is already established? It was suggested that there was no real way to ensure transportation from point A to point B without individual due diligence and still keep it simple and non-regulated.

### III. PROCESSING

#### 1. Certification (either voluntary or mandatory)

- “Voluntary” certification or registration for “approved processing companies.” It would help the public and create a level playing field for processing companies if there was some type of certification created. The processing companies would be required to meet minimum requirements to receive this certification and various benefits (being listed on the department’s Web site). Processing companies would not be considered “bad” if they were not certified. Certified companies would be considered “better.” This would also help the public tell the difference between legitimate processing companies and sham recyclers.
- “Mandatory” document a processing company must have approved by DNR before they could operate. Could be a permit, operational license, tiered certification, or management plan. The document would be a hybrid of the current RCRA hazardous waste permit and Resource Recovery certification. The information contained in the document would depend on the materials the company would handle and how those materials would be processed.
- Some type of state / local / third party audit or inspection of the companies to make sure they are following their management plan/certification.

#### 2. Releases

- storage (impervious surface, protection from weather, fugitive emissions, spill provisions)
- fire protection (driven by the requirements of the local fire district)
- emergency preparedness plan
- material identification
- non-conforming material protection
- container identification when shipped to the company
- some sort of protection from being classified as a large quantity generator if someone ships the wrong materials to them

#### 3. Speculative Accumulation

- One year time limit on storage, unless otherwise specified in the company’s management plan. This would depend on the material, whether it has a negative or positive value.

#### 4. Proper Closure

- Decontamination
- Financial assurance (dependent on the business size) to pay for cleanup in the event that they go bankrupt.
- Third party assessment of the companies management plan/certification
- Some type of state / local / third party inspection and closure certification when a processing company is no longer in business.

## **IV. DISPOSITION**

### **1. Certification**

- Recycling certification/permit that is easier to get than a TSD permit. Could be similar to Resource Recovery Certification.
- Certification should include being registered.

### **2. Releases**

- Dusting issues
- Air emissions (Mercury, VOCs, etc)
- Metals (lead, cadmium, etc)
- Unknowns (such as brominated flame retardants)
- Perform work indoors
- Worker protection standards (involve OSHA.)
- Through put accounting so material not obviously 'lost' in the system
- Time limitations

### **3. Speculative Accumulation**

- 1 year time limit like HW Universal Rule
- 3 month time limit because business needs turn around to be successful
- Proof of end market, not just collecting useless parts. Also makes sure final disposition is in US vs. foreign countries.
- Specific business plan (tailored to each waste recycled, longer time limits for harder to recycle items, shorter time limits for things such as metals)
- Accumulating 'whole' electronics instead of disassembled units
- Recycling valuable parts, storing less valuable parts
- Regular inspections by DNR
- Tracking of inventory using barcodes, scanners, etc
- Record keeping used to invoice customers also used to track through put of facility (i.e. material that comes in regularly goes out)

### **4. Proper Closure**

- Financial Assurance Instrument (bonding, insurance, etc)
- Memo of Understanding or contract among members of the industry that guarantees
- Stockpiled electronics will become the responsibility of the group in the event that one member goes out of business. Would be an alternative to costly FAI.